

# Kansas Department of Health and Environment

## Bureau of Environmental Remediation, Remedial Section

### State Cooperative Program



## *Battery Waste Removed Through A Local/ State Partnership*

### **Background:**

The Fairmont Battery Site is located at the northwestern corner of the intersection of Noon and Francis Streets, just outside the City of Manhattan, in Riley County, Kansas. In 1996, during the demolition of buildings and other improvements on residential properties in an area that is prone to flooding by the Kansas River, contractors for Riley County discovered an area of buried batteries.

The KDHE Site Assessment Program conducted a Preliminary Removal Evaluation (PRE) in January 1997. The PRE identified approximately three distinct areas, totaling approximately ½ an acre, that contained lead-impacted soil. Battery casings were observed from the ground surface to a depth of about 4 feet. In October 1997, Riley County and the KDHE entered into a Removal Action Agreement that allowed the County to conduct a time-critical removal action pursuant to the KDHE State Cooperative Program.

### **Solution:**

On-site soil containing elevated levels of lead was excavated and removed. Additionally, soil containing lead at leachable concentrations near or above the RCRA hazardous waste limit was treated in place using a proprietary blend of magnesium oxide and phosphate to reduce the leachable lead concentration to below the RCRA limit. All of the excavated material was disposed at the Waste Management, Inc., Rolling Meadows Landfill in Topeka, Kansas.



*Abundant battery casings identified.*



*Case 580 backhoe utilized by KDHE staff advancing test pit S-7.*

Soil samples were collected from the excavation sidewalls and base and analyzed for lead to confirm the extent of the removal action. A total of approximately 2,910 cubic yards (3,687 tons) of impacted soil were removed and landfilled off-site. The landfill material also included approximately 75 tons of treatment chemicals.

Upon completion of the excavation activities, the site was returned to the approximate original grades by backfilling the excavations with general fill. The County seeded the site to reduce erosion. The site has been developed into soccer fields for the City of Manhattan.



*A layer of battery casings approximately three feet thick was observed in this pit.*

### **Benefits:**

- **3,687 tons of lead contaminated soil was removed**
- **Property redeveloped as a recreational area for the City of Manhattan**